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ABSTRACT

Described are some ideas for using photography in the elementary classroom. Justification for using photography in the classroom includes student interaction with the photography materials, building teacher-student rapport, the potential for integration into different areas of elementary curriculum, and support for the developmental theorists' viewpoints that learning takes place through direct experience with materials. Topics covered include: (1) Why use photography in the classroom; (2) Some projects that have been tried; (3) Other project ideas; (4) How to use a 35mm camera; (5) How to develop negatives; (6) How to print black and white pictures; (7) How to process your own color slides; and (8) Some books teachers and students might find helpful when working on a photography unit. (Author/DS)

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Photography in the Elementary Classroom

by Lowell Thompson

Introducing the Author

into open education

Photography in the Elementary Classroom

By Lowell Thompson
University of North Dakota

INTRODUCTION

Over the past several years I have had an opportunity to work with a number of elementary teachers who were beginning to explore the use of photography in their own classrooms. My association with these teachers developed partly through my interest as an amateur photographer (I usually have a camera in hand as I attend meetings throughout the area) and partly as a result of a course I teach at the University. This course "focuses" on using classroom photography and is offered to undergraduate students in teacher education. These students have invited me into their classrooms as they student taught and as they took their first teaching positions. Other teachers have also shared with me some of the ideas they have tried.

This article then, will try to share with the reader some of those ideas that have been "tried and true." The article will make frequent use of the pronoun "we" . . . . It refers to the author and the elementary teachers I have worked with.

Also, all of the ideas or projects presented in the second section of this article have involved primary age students in actively manipulating the equipment (camera, enlarger, etc.) but students this age obviously need to be given some assistance and also need to be given just the right amount of assistance . . . too much and it becomes the teacher's project and not the child's; too little and it can be botched up rather badly. This is not to suggest, however, that classroom photography need always involve the children in the taking and printing of the pictures. A teacher, for instance, might want to take pictures of a class trip and have the pictures processed commercially. A lot of interesting writing, talking and sharing will still go on once the pictures are returned and posted on the bulletin board.

Finally . . . the remainder of this article will be organized around the following eight topics:

1. Why use photography in the classroom.
2. Some projects we have tried.
3. Other projects we would have tried if we had thought of them.
4. How to use a 35mm camera.
5. How to develop negatives.
6. How to print black and white pictures.

7. How to process your own color slides.
8. Some books you and your students might find helpful.

WHY USE PHOTOGRAPHY IN THE CLASSROOM

Let me list the whys! First of all, it's "student proof;" students absolutely love to manipulate the equipment and to see a picture emerge in the developing tray: all through their own efforts. It's a real turn on for kids . . . it's almost like magic but even more importantly, the look of surprise and satisfaction in the students' eyes as they develop that first picture is a thing to behold . . . it's almost as if they are saying . . . "I did that! Holy Mackerel! (or whatever) I'm really better than I thought I was!"

Secondly, it builds a certain special kind of a bond between teacher and students. This, it seems to me, has been especially true in the classrooms where the teacher is just beginning to learn to do photography. Perhaps it's because students see "teacher" for the first time as a "fellow learner;" perhaps it's because the teacher is "sharing of self" . . . she/he is not teaching someone else's knowledge (i.e. knowledge from a basal text) but rather sharing with the children fresh, exciting, personal knowledge . . what Arthur Combs would call "using self as instrument." Perhaps it's, as Marshall McClune might suggest, "the medium;" taking pictures of the people in the classroom has to be a fairly intense, personal experience; perhaps this intensifies the human interaction in the classroom. Whatever the reason, it does seem to be almost universal and was probably best described by a teacher who started out with a used $15 camera and a refrigerator box darkroom who said . . . "It's the most successful idea I've ever tried. The classroom is different . . . there's an excitement. Kids are anxious to come to school and the whole class gets along much better than they did before."

Thirdly, photography has the potential to integrate much of what is normally covered in the elementary curriculum. Students can, for instance, document through pictures much of the content usually associated with primary social studies (i.e. self, family, school, community, others) while at the same time the students' reading and writing can be related to their pictures and they can also do a lot of measuring, counting, estimating, etc.

Last, but not least, much support can be found for using photography from the leading developmental theorists. Piaget, for instance, would certainly have to agree that a full range of learning experiences are open to children through photography . . from the "preoperational" manipulation of the equipment, to the "concrete operations" of loading film and setting shutter speeds, etc., to the "formal operations" of planing layouts and designs and composition. Jerome Bruner's three forms of representation would also seem to be operating in the use of classroom photography; from the students active, hands on manipulation of the equipment (enactive) to the organizing and summarizing of the visual images on the pictures (iconic) to the writing and discussing and, in a word, languaging about the pictures and the process of picture taking (symbolic). Development through several of Erik Erickson's "Eight Stages of Man" would also seem to be facilitated through the use of classroom photography. Specifically, the development of a positive sense of "industry" (versus a sense of inferiority) where the teacher is able to . . . "win recognition by producing things" would seem easily facilitated through the production of reasonably good black and white photo-

graphs. Other developmental theorists including John Dewey (The School and Society), Robert White (Motivation Reconsidered), Mark Lepper and David Green (The Hidden Costs of Reward) and David Feldman ("The Child as Craftsman" Kappan, September 1976) could also be drawn on to support the use of photography in the classroom.

SOME PROJECTS WE HAVE TRIED

One of the most successful projects we have tried focused on "self concept" and utilized both photography and bookbinding in the process. First of all, individual pictures were taken and developed of every student in the classroom. Students working in pairs took pictures of each other after the teacher had set the exposure and focus, etc. on the camera. Students also helped the teacher print the pictures by running the exposed prints through the various chemicals. During the time that it took to take, develop and print the pictures, the students were preparing pages for their "It's Me Book." The title page of the "It's Me Book" contained the student's name, neatly printed. The second page contained the student's vital statistics . . . age, height, weight, color of hair, eyes, etc. Other pages included information about the students' family, brothers, sisters, parents, drawings of their home, etc. Still other pages contained drawings and sheet narratives of things the individual students liked to do, things they saw themselves as good at, their most exciting experiences, etc. Once all of the pages were complete and the pictures printed, students bound their pages into a book and used their pictures on the cover of the book. The covers and the pictures were covered with clear contact paper and most of the books looked very professional for second graders.

Two other projects using pictures of individual students also proved to be rather interesting. One teacher put 5 x 7 pictures of each student at eye level above a tack board strip. The teacher then displayed samples of the student's work below each picture. Students seemed to take more pride in their work when it was displayed in this way and they certainly attached more significance to it than had their work been displayed more anonymously. The other project involving student portraits is only recommended for the affluent! This project involved enlarging the pictures to poster size (fairly costly as you can imagine) and then suspending each from a high cement beamed ceiling. The effect was rather striking. What had been a rather cold, stark environment had been transformed into a much more aesthetically pleasing and warm environment with the large, grainy, almost abstract portraits of each student. Not only was the visual environment enriched but comments made by several of the students indicated that students identified much more strongly with "their class" and "their classroom." There was, in all candor, some more or less good natured joking about the class "uglies." Even this provided the teacher with an opportunity to do a short, light, informal, "Beauty is in the eye of the beholder" lesson.

Both of these projects - the poster project and the tack strip project - may have helped children develop a stronger ego identity and self concept. In my own observations of children it seems to me that very young children come to know "self" initially through a very physical kind of knowing. During the first few months the young child will show little or no interest in their image as it's reflected in a mirror; somewhat later children appear to recognize the image as that of a person but do not identify with it in any way; still later there appears to be some more specific recognition . . often the child will say "baby" when they see themselves in a mirror and still later a smile of recognition will appear when mother holds the child up to the mirror and says the child's name. Still later in the preteen and early teenage years a child's concept

of self is almost totally related to his/her physical appearance and in fact the importance of physical self within the broader percept of total self concept may be revisited throughout ones life. Although all of the preceding discussion would seem to have some intuitive appeal and while it is based on a rather large number of observations (including the observation of my two grandchildren) I know of little literature or research that addresses this specific question, namely . . . at what stage in a child's development does the physical (i.e. visual) sense of self emerge and how important is this physical sense of self in the overall development of a child's self concept. My own speculation is that it is both early and important . . . it may even be one of the first percepts in a hierarchy of percepts concerning self that need to be dealt with at some level before more meaningful or powerful concepts of self can develop. If I'm right about this, the visual images of children displayed in classrooms takes on added significance.

Another project we had a lot of fun with started out to be a short unit on community helpers. It ended up as a multi-media production presented to several upper grade classrooms and to the local P.T.A. The "mistake" that we made was to allow a couple of the students to go with a teacher's aide and take some black and white pictures of a few of the community helpers. Once the pictures came back everyone wanted to go out and take pictures. The second "mistake" we made was to oblige them. Not only did we give each small group (2-3 children) a chance to go out with the aide to take pictures, we also loaded color film in the camera, sent along a tape recorder and asked the children (grade 3) to interview each of the community helpers. We developed the film right in the classroom (you don't need a darkroom or enlarger to develop color slides) and the children were thrilled and fascinated with the results. It seemed like an ideal project to extend a bit so we had them do some writing about jobs and careers and community helpers. We had them sequence in some order the slides they took; we had them write scripts and play back parts of their interviews . . . "We asked Mr. Smith if he likes being a policeman. This is what he had to say about that _____ _____." We put all of the parts together and put it on for our own amusement. The kids ran the projectors and the tape recorders and read their scripts. It went so well that they wanted to share it with the other third grade class and then with the fourth graders and then with their parents at P.T.A. It was, I must say, better than most P.T.A. programs. Again, in all candor, I must say that we gave the students a lot of help and direction but not so much that the students lost ownership of the project.

We have also used pictures of individual students for "student of the week" bulletin boards. A different student is selected each week and their picture is put on the board. A student committee then interviews the student and gets some personal information - hobbies, outstanding achievements, other places the student has lived, favorite foods, etc. The committee then makes a collage of this information and puts it on the board with the student's picture. Meanwhile the teacher will have asked each student to write a positive statement about the student of the week . . . "I like George because . . . or I think George is nice because . . . ." The teacher will then have a few of these statements typed up and will add them to the board. George might even be asked to bring some baby pictures or other personal items to be put on the board. A little ceremony usually follows the completion of the display and on Friday the materials are packed up and sent home to be shared with the student's parents.

The increased interaction between students and their parents as a result of using classroom photography was quite unexpected. Instead of the . . . "What did you learn in school today? . . . Nothing!" . . . dialog that often goes on between parents and

students, students were anxious to take their class pictures home and tell their parents about what the class was doing. One class even published a newsletter complete with pictures that they sold to parents, grandparents, aunts, uncles or anyone else they could con into buying one. Several students have even taught their parents how to do photography.

The increased interaction between parents, schools and children is not insignificant. Many people, including this writer, are convinced that the significant variable in determining the success a student will achieve in school is directly related to the extent to which parents show an active interest in the education of their child. If the parents care and show they care, the student will be successful. If they don't, the chances of success are drastically diminished.

Some of the teachers in upper grade (third and fourth) classrooms have had students do photographic assignments or projects on feelings, attitudes, values, conflict, friendship, responsibility and a host of other basically affective topics. Their involvement in these topics seemed to be much more animated. Discussions based on the students' photographs were more intense and the writing that students did in relation to the various topics seemed somehow more insightful.

PROJECTS WE WOULD HAVE DONE IF WE HAD THOUGHT OF THEM

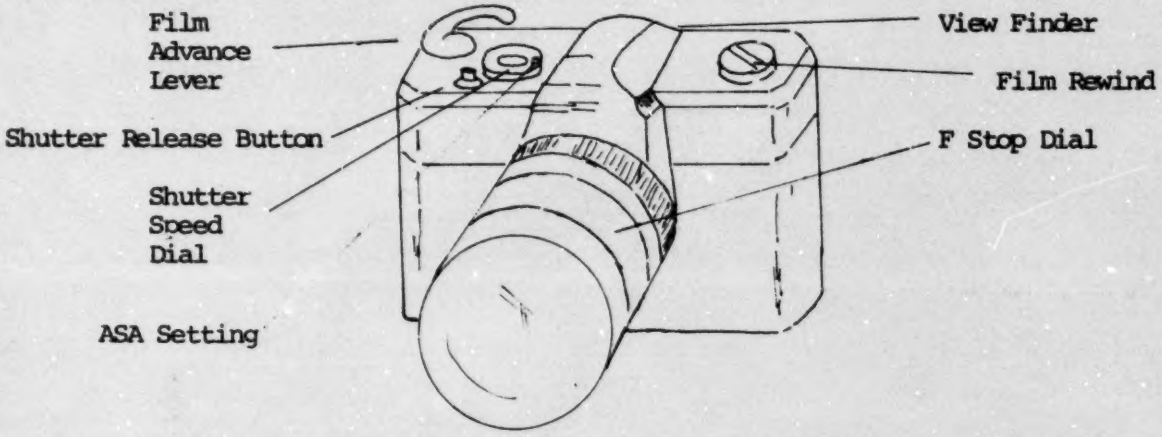
Some additional projects or ideas for using photography in the classroom are listed briefly below:

1. Students could write and illustrate their own reading books with pictures they take . . . a sort of photographic essay-language experience.
2. Photographs could be used to document class activities, field trips, programs, class parties, classroom visitors and resource people. A class album could also be started.
3. Photographs could be used to illustrate student reports. Photographs can be taken of pictures in books and magazines and used in the report.
4. Community studies, pictorial essays, white paper reports, current community issues and even family histories would be enhanced by the inclusion of pictures taken by the students.
5. Photographs could be used in setting up a classroom or community "Hall of Fame" . . . famous people, important people, helpful people . . . .
6. Student exchange letters could contain pictures of the student, their home, their family, community, etc.
7. Photographs made by the teacher or the students could be used to give children experience in the sequencing of stories, or historical events, or "how will it turn out" pictures.
8. Comparisons and contrasts through "here and there," or "then and now" type of pictures.

9. History flash cards or geography flash cards or flash cards from the other social disciplines can be made to present some of the concepts from these disciplines.

HOW TO USE A 35mm CAMERA

This section might better be titled "How Not to Use a 35mm Camera." What we describe below, however, is a technique we have worked out that makes using a 35 mm camera almost as easy as using an instamatic camera. As you and your students become comfortable with using the equipment you will want to take advantage of the versatility of your 35mm camera but to start with, keep it as simple for the children as you can... even if you are an experienced photographer we suggest you try our system for the first few rolls of film your students do.



Step 1: Load a roll of Tri X pan (20 exposure) film in your camera. If you are not sure how to do this, take your camera with you when you buy your film. The clerk will be happy, I'm sure, to show you how to load the film. He/she will also try to sell you a "better" camera and will want to show you how you are "spozed to" set your camera up. Listen patiently but ignore his/her advice; do it the way we recommend below. Later you might want to go back and get more information but try it our way to start with. Also . . . you might want to ask the clerk how to rewind and unload the film.

Step 2: Setting the dials on the camera. There is a marvelous array of dials and scales and numbers on a 35mm camera that give the 35mm a wonderous versatility but it does get just too complex for students. We recommend that the teacher set the camera up as outlined below and then all the student has to do is "snap the picture."

a. Set the ASA dial at 400. Your Tri X film is rated at 400 ASA. Setting this dial simply "tells" the camera what kind of film you are using.

b. Set the shutter speed at 250. This determines the length of time the shutter will remain open. Setting this at 250 means the shutter will stay open for 1/250 of a second.

c. Set the "F-stop" dial at 16. This will set the size of the opening in

the lens. Like the shutter speed, this setting is really a fraction . . . i.e. 1/16.

d. Set the focus. Focus (feet) to infinity (∞). This determines at what distance your subject will be in "focus" and by setting it at infinity, your subjects will be in focus from as close as 15 feet to as far away as several hundred feet or really to infinity.

The camera is now all set up to take good pictures outside. Pictures taken in really bright sun might turn out a bit dark (overexposed) and pictures taken in a heavy overcast might turn out a bit light (underexposed) but all should turn out fairly good . . . maybe not good enough for the professional photographer but your kids will be thrilled with them.

HOW TO DEVELOP THE NEGATIVES

The equipment and chemicals needed to develop the negatives are shown below:

Changing Bag | Developing Tank | Can Opener | D-76 Developer | Stop Bath | Fixer | Scissor

Developing of the negatives is relatively simple but we have usually mixed the chemicals, unloaded the camera and loaded the film in the developing tank for the students. The students have done all of the rest including pouring the chemicals, timing the various processes and washing, wiping and drying the negatives.

Step 1: Mix the D-76, the stop bath and the fixer according to directions found on the package.

Step 2: Load the negatives in the developing tank. This step is sort of tricky so read through a - g below before you start . . . note especially step d.

a. Place the film cartridge, can opener, scissors and developing tank in the changing bag, close both zippers tightly and insert your hands into the elastic holes on the top of the bag. You will be loading the film into the developing tank inside the changing bag.

b. Take the film out of the cartridge by prying off the "short" end of the cartridge with the pointed end of the can opener and pulling the film off.

c. Take the scissors and cut the narrow leader off the one end of the film and also cut the plastic reel off the other end.

d. Open the developing tank, take out the reel and load the strip of film on this reel. This is done by winding the film around the reel and into the grooves at either side of the reel. The grooves separate the film

so that the chemicals can flow freely around all of the film. This is the most difficult part of the process and you will want to practice this step with an old roll of exposed negatives or with a strip of rather ridgid paper cut to the same size as your strip of film (1 3/8" by 20"). It's best to practice this out in the daylight before you actually begin. Once you get good at doing it, close your eyes and try it. If you can still do it you are ready to try it in the changing bag.

e. Once you have loaded the film on the reel, put the reel back in the developing tank (long end up) and put the cover back on the tank. The tank is light proof so you can now take the tank out of the changing bag.

Step 3: Make sure that your chemicals are at room temperature (approximately 68-70 degrees) and develop your negatives as outlined below:

a. Fill the developing tank with D-76 (pour through hole in top, don't take the cover off); slosh the D-76 around gently a bit every minute or so; leave the D-76 in for 9 minutes then pour it out through the slots in the top (again . . . don't remove cover). The D-76 can be reused so pour it back into your D-76 container.

Step 4: Fill the developing tank with stop bath; slosh the stop bath around gently for one minute. Pour the stop bath back into your stop bath container.

Step 5: Fill the developing tank with fixer; slosh around every minute or so; pour back into fixer container after 4 minutes.

Step 6: Wash the negatives for 15 or 20 minutes under a cool water tap by allowing the water to flow into the center hole in the tank and out the side slots.

Step 7: After 15 minutes take the reel out of the tank, remove the film from the reel and dry the film by taking a soft, dampened paper towel and drawing your film very slowly through the towel so that both sides of the negative are wiped free of excess water.

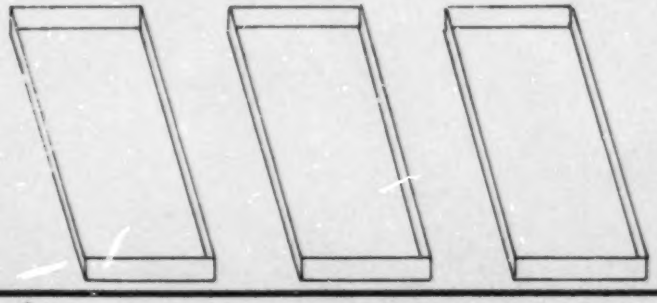
Step 8: Hang negatives up to dry in a reasonably dust free place.

HOW TO PRINT BLACK AND WHITE PICTURES

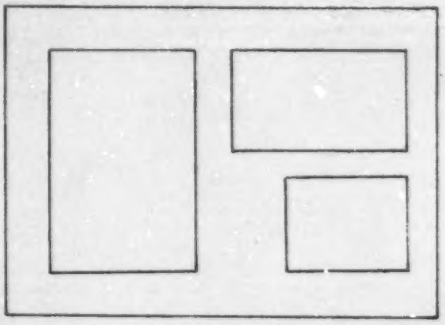
The equipment and materials you will need to print black and white pictures are as follows:

Enlarger

Three Developing Trays



An Easel



A Safe Light

Dektol

Stop

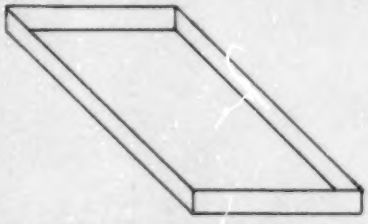
Fix

R.C. Photo Paper

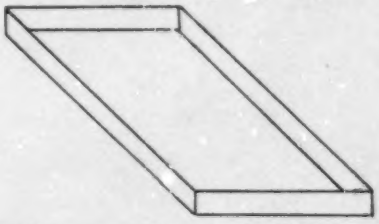
PRINTING AND ENLARGING YOUR PICTURES

1. Mix the chemicals and fill the 3 trays with Dektol, stop bath and fixer. Make sure the temperature is about 70°.

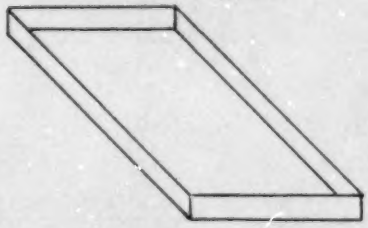
Dektol



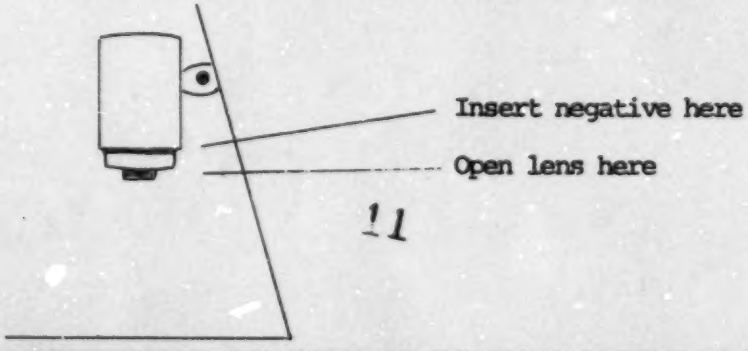
Stop Bath



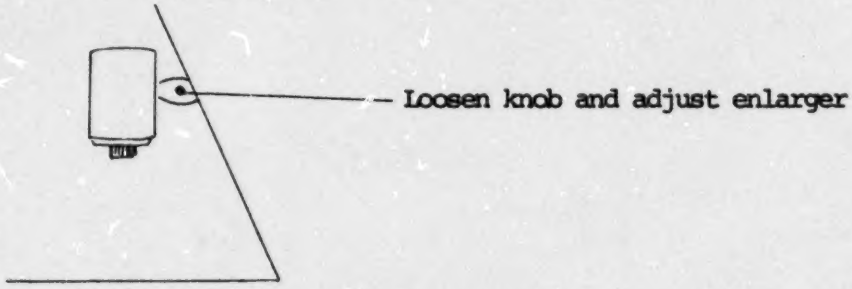
Fixer



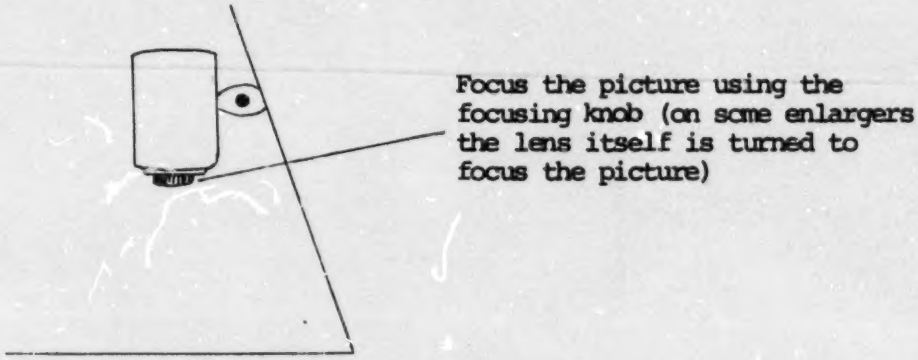
2. Insert your negative in the enlarger. Turn off the room lights and turn on the safe light. Turn the enlarger on and open the lens to its widest (brightest) setting.



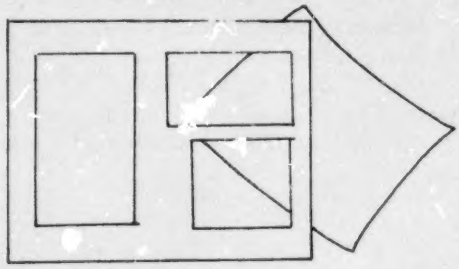
3. Move the enlarger up or down until the picture is the size you want.



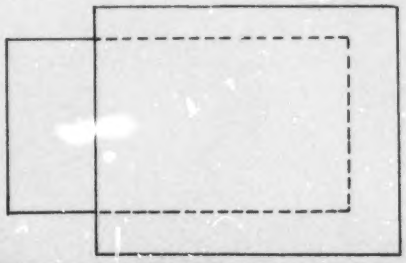
4. Adjust the lens so that the picture is in sharp focus.



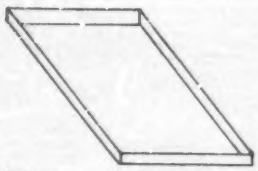
5. Turn the enlarger off and insert a sheet of photographic paper in the easel.



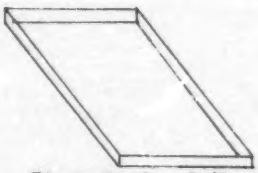
6. Make a test print by setting the lens (F stop) at 8. Hold a piece of cardboard over the paper and turn the enlarger on. Now move the cardboard back a bit to expose a narrow strip of the paper for 5 seconds. Move the cardboard back a bit more and expose the section now uncovered for another 5 seconds. Continue to move the cardboard back every 5 seconds until you reach the end of the paper, then turn the enlarger off.



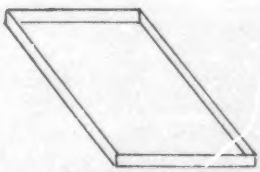
7. Process your test print by putting it in each of the chemicals for the prescribed time.



Dektol: 1-2 min.

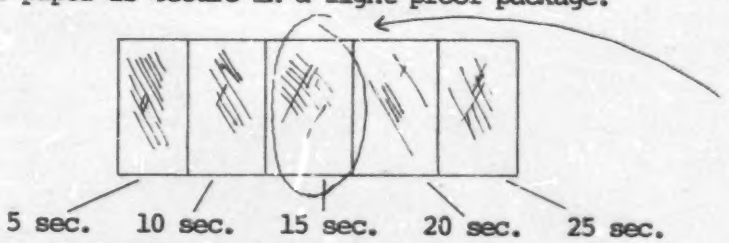


Stop Bath: 1/2 min.



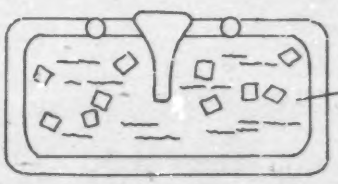
Fixer: 2-4 min.

8. Look at your picture and decide which "strip" is best. The picture will appear a bit darker under safe light than it really is. You might want to turn on the room light to decide which strip is really best. If you do, make sure all of your photographic paper is secure in a light proof package.



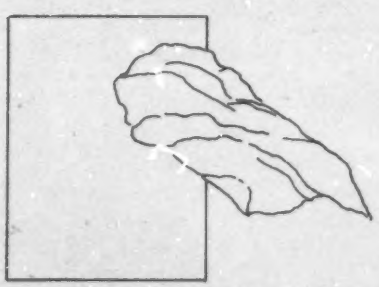
9. Check the focus of your picture and make a final print exposing the paper for the amount of time you selected in 8 above. The process for printing the other pictures on the roll is the same. You probably will not have to make a test print of each one. If your negatives are reasonably consistent, they should turn out all right using the same exposure time as you used in your first print.

10. Wash or soak your pictures for 10-15 minutes in a sink. It's best to leave the cold water tap on so that the chemicals are flushed away.



Cold water wash (about 68° to 65°)

11. Dry your prints. If you used an RC paper, the prints can be wiped off with a photo wipe or paper towel and hung up to dry. If you have not used an RC paper the prints will have to be dried in a blotter or an electric dryer.



Wipe RC prints off and hang up to dry.

HOW TO PROCESS YOUR COLOR SLIDES

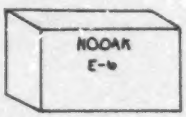
Processing color slides is really easier than processing black and white prints. The only equipment and materials you will need include:

Changing Bag

Developing Tank

Thermometer

E-6 Processing Kit



Film

Slide Mounts

Step 1: Mix the 4 chemicals found in the E-6 kit.

Step 2: Load the film in the developing tank using the changing bag as described in Step 2 of "How To Develop Your Negatives."

Step 3: Fill the developing tank with chemicals as described in the instructions contained in the E-6 kit.

Step 4: Remove film, dry and mount in slide mounts.

Film strips for use in the classroom can also be made in basically the same way. The only difference being that you leave the whole roll of film intact instead of cutting and mounting each frame in a slide mount and . . . you need to hold the camera "sideways" when you take the pictures.

Hold camera sideways when making filmstrips:

SOME BOOKS YOU AND YOUR STUDENTS MIGHT FIND HELPFUL

Benedict, Joel A. Photography for Kids. Media Research and Development, Arizona State University, Tempe, AZ, 1976.

Coe, Brian. The Birth of Photography. Taplinger Publishing Company, New York, 1977.

Czaja, Paul Clement. Writing With Light. Chatham Press, Riverside, Connecticut, 1973. The author presents photography as a rewarding means of personal expression and communication. Also included in this 96 page book are instructions for making pictures, the workings of the camera, film, developing, etc. Beautifully illustrated with photographs.

Eastman Kodak Company. Elements of Visual Literacy. Kodak Publications No. T-25, Rochester, NY, 1969.

Forbes, Robin. Click, a First Camera Book. Macmillan Press, New York, 1979.
Simple instructions for those learning to handle the camera for the first time.

Jacobs, Mark and Kokrada, Ken. Photography in Focus. National Textbook Company, Skokie, IL, 1975.

Scharf, Aaron. Pioneers of Photography. Harry N. Abrams, Inc., New York, 1976.

Scheffer, Victor B. The Seeing Eye. Charles Scribner and Sons, 1971.
The Seeing Eye is an appreciation of what is beautiful in nature and an explanation of why we find these things beautiful. This 48 page book is divided into three sections: form, texture and color. Beautiful color photographs are grouped accordingly.

INSIGHTS is published eight times during the academic year by the Center for Teaching and Learning, University of North Dakota.

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Introducing the Author

Lowell Thompson maintains an active interest in amateur photography. He recently completed several panels of prints of early schools which are displayed at the University of North Dakota. He also uses photography in his graduate and undergraduate courses and has produced a number of documentary photo kits and film strips for elementary social studies classes. Lowell is also in the process of writing a book on active learning in the social studies which focus on the use of authentic craft activities to enrich the social studies.